REMARKS

Claims 1-21 are pending in the present application. In the present Office Action, dated March 30, 2006, Claims 18-21 are objected to because of informalities. Claims 1, 2, 4, 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yao-Joe Yang et al. Claims 1, 2, 4-6 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Jee; U.S. Patent No. 6,638,640. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yao-Joe Yang et al. Claims 7, 11, 13 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jee in view of Leonetti et al.; U.S. Patent No. 6,053,275. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jee; U.S. Patent No. 6,638,640. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jee and Leonetti et al. as applied to claim 11, additionally claim 12 is rejected as being unpatentable in view of Murakami et al.; U.S. Patent Application No. 2002/0108807A1. Applicant amends and respectfully traverses these rejections.

Claims 18-21 are objected to because of informalities. As such, each claim has been amended to reflect the consistent dependency of each dependent Claims 18-21 to the independent Claim 17. As presently amended, Claims 18-21 have been amended to replace the number [16] with the correct Claim number --17--.

Claims 1, 2, 4, 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yao-Joe Yang et al. via the 1997 IEEE International Conference; tiled "Effect of air dampening on the dynamics of nonuniform deformations of micro-structures." (referred to hereinafter as 'Yao-Joe'). Applicant respectfully amends and traverses.

Yao-Joe is directed to the dynamics of air damping on microstructures and a methodology for determining macromodel parameters of compressible isothermal squeezed-film damping (CISQFD). However, Yao-Joe is totally missing any implementation or application of

the basic engineering principles. With respect to presently amended Claim 1, which has antecedent basis in para. 5 line 2 of the specification, the squeeze film damper is directed to the application and practical use of a squeeze film damper on vehicles, including aircraft, or buildings, as stated in presently cancelled Claims 8 and 9. In contract, Yao-Joe discloses only a theoretical derivation for CISQFD based on modal analysis and numerical simulations. Yao-Joe is totally missing any discussion related to the application or practical use of a squeeze film damper on vehicles, including aircraft, or other buildings. Additionally at no place in the cited portions of the paper does Yao-Joe disclose a squeeze film damper coupled to a vehicle, an aircraft, or a building. In fact, a search of Yao-Joe shows that at no place in Col. 3 are the words "airplane" or "vehicle" used. Further, the application and use of a squeeze film damper for a vehicle, airplane, or building requires specific materials selected for such application, and Yao-Joe does not discloses any such materials. For at least the above stated reasons, presently amended Claim 1 is believed to be allowable over Yao-Joe.

Due to the amendment to Claim 1, Claims 8 and 9 have been presently cancelled. Claims 2, 4, and 5 are dependent on Claim 1, therefore due to the allowable nature of Claim 1, as discuss above, it is believed that Claims 2, 4, 5 and 8 are also allowable over Yao-Joe.

Claims 1, 2, 4-6 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Jee; U.S. Patent No. 6,638,640. Applicant respectfully traverses.

Jee is directed to multi-layered metal plates with excellent damping capacity having at least two metal plates where the upper metal plate in less than one fifth the thickness of the lower main plate. However, Jee is totally missing a squeeze film damper coupled to a vibrating surface, where the squeeze film damper has a flexible cover. With respect to Claim 1, the cover is made from a flexible material that is connected to the rigid planar base by a support structure.

In contract, Jee discloses a "multi-layered metal plate." (Jee Col. 1, lines 36-37, emphasis added). The disclosure in Jee is only directed toward metal cover plates and does not contemplate substantially flexible cover plates. Further, Jee is totally missing a squeeze film damper such that the base, the support structure and the cover enclose a volume. Here, the squeeze film damper encloses a very thin layer of air between the base and the cover, such that the air or other gas is trapped in the volume. In contract, Jee discloses the use of a welding, specifically spot welding. (Jee Col. 2, lines 50-53). Therefore Jee does not disclose a squeeze film damper that has a flexible cover, or a squeeze film damper that encloses a volume and traps air or other gases.

It should be further noted that Jee discloses a desirable distance "that the spacing between the main plate and the and the secondary plate is .01mm – 3 mm, and more preferably .1 mm - .5 mm" (Jee Col. 2, lines 37-39). However, in the present invention the gap is on the order of micrometers. (Para. 16, lines 7-10). Specifically the smallest range identified in Jee is 1×10^{-5} meters, whereas the micrometer range is 1×10^{-6}m. Therefore, Jee is not directed to a similar squeeze film damper, and in fact affirmatively excludes the disclosed function of the present invention. For at least the above stated reasons, Claim 1 is not anticipated by Jee.

Claims 2, 4-6 and 10 are dependent on Claim 1, therefore due to the allowable nature of Claim 1, as discussed above, it is believed that Claims 2, 4-6 and 8-10 are also allowable over Jee.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yao-Joe Yang et al. Claim 3 depends from Claim 1, and due to the allowable nature of Claim 1, as discussed above, it is believed that Claim 3 is also allowable over Yao-Joe.

Claims 7, 11, 13 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jee in view of Leonetti et al.; U.S. Patent No. 6,053,275. Leonetti is directed to an acoustical absorber array having acoustically reflective surfaces with a plurality of acoustic absorbent materials mounted on the base surface. However Leonetti is totally missing an array of squeeze film dampers with a support structure connecting a base plate and a flexible cover that encloses a volume. Here, an array of squeeze film dampers can be applied across large vibrating surfaces and can in addition, be enclosed in a foam structure for added dampening. In contract, Leonetti teaches away from the preset invention by using only acoustically absorptive materials in an array. (Leonetti Col. 1, lines 8-12). However these materials take up a large volume and add weight to the structure. The additional volume and added weight teach away from the present invention, thus the use of acoustically absorptive materials is not in the same technical field. It would not have been obvious to one of ordinary skill in the art at the time of the invention to use art that teaches away from the goals of lightweight and minimal volume requirements. Further, Jee, as discussed above, does not teach the use of a flexible cover for the squeeze film damper. Thus, it would not have been obvious to one of ordinary skill in the art at the time of the invention to use art that teaches away from typical light weight applications in combination with a rigid squeeze film damper.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jee in view of Leonetti et al.. However, as stated above, Claim 11 is not obvious in light of any know priort art. Therefore Claim 17 is not anticipated, for at least the above stated reasons that are directed to Claim 11.

Claim 7 is dependent on Claim 1, therefore due to the allowable nature of Claim 1, as discuss above, it is believed that Claim 7 is also allowable over Jee, in view of Leonetti.

Claims 13 and 15, 16 and 18-21 are dependent on Claim 11, therefore due to the allowable nature of Claim 11, as discuss above, it is believed that Claims 13 and 15, 16 and 18-21 are also allowable over Jee in view of Leonetti.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jee; U.S. Patent No. 6,638,640. However, Claim 14 is dependent on Claim 11, therefore due to the allowable nature of Claim 11, as discuss above, it is believed that Claim 14 is also allowable over Jee.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jee and Leonetti et al. as applied to claim 11, additionally claim 12 is rejected as being unpatentable in view of Murakami et al.; U.S. Patent Application No. 2002/0108807A1. However, Claim 12 is dependent on Claim 11, therefore due to the allowable nature of Claim 11, as discussed above, it is believed that Claim 12 is also allowable over Jee in view of Leonetti and over Murakami.

It should be further noted that Leonetti is directed to acoustical absorber arrays, however Leonetti is totally missing a squeeze film damper with an additional rigid foam cover over the squeeze film dampers. In the present invention, an array of squeeze film dampers is enclosed or encased by a foam cover. At no place in either Jee or Leonetti, is there a motivation to combine a squeeze film damper with an acoustic material. In fact, as discussed above, Jee does not disclose a squeeze film damper with a flexible cover, and Leonetti does not disclose the use of acoustic absorption materials in conjunction with other acoustic dampening devices. Thus it would not have been obvious to one skilled in the are at the time of the invention to combine Jee and Leonetti to produce a squeeze film damper with a flexible cover that is enclosed by a rigid foam cover.

In light of the foregoing comments, Applicant respectfully submits that claims 28-43 are believed to be allowable as discussed herein.

In conclusion, the Applicant respectfully submits that the application is in condition for allowance and requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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